

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Previously Presented): A semiconductor laser device, comprising:

a doped semiconductor cladding layer;

an undoped semiconductor optical confinement layer;

an undoped semiconductor spacer layer positioned between said cladding layer and said optical confinement layer and in physical contact with both said cladding layer and said optical confinement layer and wherein said undoped semiconductor spacer layer has a thickness that is less than a thickness of said doped semiconductor cladding layer;

a light-generating layer disposed over said optical confinement layer; and

a first electrode and second electrode for supplying an electrical current to said light generating layer.

Claim 2 (Previously Presented): The laser device of claim 1, wherein said undoped spacer layer has a thickness which is less than the thickness of said cladding layer and which is more than about 4 nm.

Claim 3 (Original): The laser device of claim 1 wherein said semiconductor cladding layer is n-doped.

Claim 4 (Original): The laser device of claim 3 wherein the n-doping material in said cladding layer is selenium.

Claim 5 (Original): The laser device of claim 1 wherein said undoped spacer layer comprises InP, GaInAsP, or AlGaInAs.

Claim 6 (Original): The laser device of claim 5 wherein said undoped spacer layer consists of a single layer.

Claim 7 (Original): The laser device of claim 5 wherein said undoped spacer layer consists of a single layer of GaInAsP having a bandgap-wavelength in the range of 0.92-1.1 μm .

Claim 8 (Original): The laser device of claim 5 wherein said undoped spacer layer consists of a graded composition layer of GaInAsP or AlGaInAs having a bandgap in the range of 0.92-1.1 μm .

Claim 9 (Original): The laser device of claim 5 wherein said undoped spacer layer comprises two sub-layers of GaInAsP or AlGaInAs of differing compositions, each of said two or more sub-layers having a bandgap-wavelength in the range of 0.92-1.1 μm .

Claim 10 (Original): The laser device of claim 5 wherein said undoped spacer layer comprises a strain compensated superlattice layer.

Claim 11 (Original): The semiconductor device of claim 1 wherein said semiconductor layers are formed by MOCVD deposition.

Claim 12 (Previously Presented): A semiconductor laser device, comprising:
a semiconductor substrate;
an n-doped semiconductor lower cladding layer;

an undoped semiconductor lower optical confinement layer;

an undoped semiconductor spacer layer between said lower cladding layer and said lower optical confinement layer and in physical contact with both said cladding layer and said optical confinement layer and wherein said undoped semiconductor spacer layer has a thickness that is less than a thickness of said doped semiconductor cladding layer;

a semiconductor active layer for generating light;

a semiconductor upper optical confinement layer;

a p-doped semiconductor upper cladding layer; and

electrodes for current injection to said device.

Claim 13 (Previously Presented): The laser device of claim 12, wherein said undoped spacer layer has a thickness which is less than the thickness of said cladding layer and which is more than about 4 nm.

Claim 14 (Original): The semiconductor laser device of claim 12 wherein all of said semiconductor layers are formed from III-V semiconductor compounds.

Claim 15 (Original): The semiconductor device of claim 12 wherein said active layer comprises a quantum well structure.

Claim 16 (Original): The semiconductor device of claim 12 wherein the doping material in said n-doped lower cladding layer is selenium.

Claim 17 (Original): The semiconductor device of claim 12 wherein said undoped spacer layer has a bandgap-wavelength in the range of 0.92-1.1 μm .

Claim 18 (Original): The semiconductor device of claim 12 wherein said spacer layer consists of a layer selected from the group consisting of InP, a single layer of GaInAsP or AlGaInAs, two or more sublayers of GaInAsP or AlGaInAs of differing composition, and a superlattice structure.

Claim 19 (Original): The semiconductor device of claim 12 wherein said semiconductor layers are formed using MOCVD deposition.

Claims 20-31 (Canceled).

Claim 32 (Previously Presented): The semiconductor laser device of Claim 1 wherein said optical confinement layer comprises a quaternary compound material.

Claims 33-35 (Canceled)

Claim 36 (Previously Presented): The semiconductor laser device according to Claim 1, wherein the spacer layer comprises a strain compensated superlattice layer.

Claim 37 (Previously Presented): A semiconductor laser device, comprising:
a doped semiconductor cladding layer;
a semiconductor optical confinement layer comprising a quaternary compound;
an undoped semiconductor spacer layer positioned between said cladding layer and said optical confinement layer;
a light-generating layer disposed over said optical confinement layer; and

a first electrode and second electrode for supplying an electrical current to said light generating layer; wherein

said undoped semiconductor spacer layer is in physical contact with both said doped semiconductor cladding layer and said semiconductor optical confinement layer and wherein said undoped semiconductor spacer layer has a thickness that is less than a thickness of said doped semiconductor cladding layer.

Claim 38 (Previously Presented): The laser device of claim 37, wherein said undoped spacer layer has a thickness which is less than the thickness of said cladding layer and which is more than about 4 nm.

Claim 39 (Previously Presented): The laser device of claim 37 wherein the n-doping material in said cladding layer is selenium.

Claim 40 (Previously Presented): The laser device of claim 37 wherein said undoped spacer layer consists of a single layer of quaternary material having a bandgap-wavelength in the range of 0.92 μm - 1.1 μm .

Claim 41 (Previously Presented): The laser device of claim 37 wherein said undoped spacer layer consists of a graded composition layer of quaternary material having a bandgap in the range of 0.92 μm - 1.1 μm .

Claim 42 (Previously Presented): The laser device of claim 37 wherein said undoped spacer layer comprises two sub-layers of quaternary materials having different compositions,

each of said two or more sub-layers having a bandgap-wavelength in the range of 0.92 -1.1 μm .

Claim 43 (Previously Presented): The semiconductor device of claim 37 wherein said semiconductor layers are formed by MOCVD.